

REMARKS

Favorable reconsideration of the present application is respectfully requested.

Claims 1 and 5 have been amended to recite a step of introducing the Al alloy casting into an HIP apparatus capable of withstanding HIP pressure therein, performing the HIP treatment in the HIP apparatus and maintaining the temperature of the thus-treated Al alloy casting in the HIP apparatus. Basis for the step of introducing the Al alloy casting into an HIP apparatus and then performing HIP treatment is found in the paragraph bridging pp. 6-7. Basis for maintaining the temperature of the thus-treated Al alloy casting in the HIP apparatus is found in the paragraph bridging pp. 8-9. Basis for the HIP apparatus being capable of withstanding HIP pressure therein is inherent in the performance of the HIP treatment. Claims 3-4 now recite that the casting is provided with a heat insulating structure before being introduced into the HIP apparatus. Basis for this is found in the first sentence of the paragraph bridging pp. 6-7.

Claims 1, 2 and 5 were again rejected under 35 U.S.C. § 103 as being obvious over Clark in view of JP '951. Claims 1 and 5 have been amended to further clarify that the temperature of the alloy *in the HIP apparatus* is maintained. As previously explained, pressure reduction at the termination of HIP treatment can cause an undesirable drop in the temperature of the casting, in the absence of steps to maintain the temperature of the casting (page 3, lines 5-10). The present invention therefore provides a method for reforming mechanical characteristics of an aluminum alloy casting by subjecting the casting to the action of temperature and pressure (e.g., HIP), that includes a step of reducing the pressure while maintaining the temperature of the casting in the HIP apparatus.

The Office Action has relied on JP '951 to teach the step of maintaining the temperature of the HIP treated workpiece of Clark. Applicant had previously argued that JP '951 is not analogous prior art, and in any case fails to provide such a teaching, because JP

'951 simply discloses the heat ageing of an *extruded* aluminum alloy. The extrusion of the alloy in JP '951 is not an HIP treatment and does not involve cooling due to a gas pressure reduction similar to that following HIP treatment. The outstanding Office Action indicated that this argument was not found to be persuasive because JP '951 was nonetheless directed to the heat treatment of aluminum alloys.

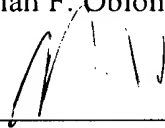
Applicants continue to maintain that JP '951 is not analogous prior art and fails to provide a teaching for overcoming the shortcomings of Clark, and the arguments of the last response are herein incorporated by reference. Moreover, the claims now further recite that the step of maintaining the temperature of the Al alloy casting is performed *in the HIP apparatus*. In contrast, JP '951 teaches that the step of maintaining the temperature of the alloy is performed *after* the alloy has been extruded from the extruder. Thus, to the extent that this would teach temperature maintenance in Clark, the teaching would be for temperature maintenance after the workpiece is removed from the treating apparatus, e.g., the HIP apparatus of Clark. The amended claims thus define over this prior art.

Claims 3, 4 and 6 were rejected under 35 U.S.C. § 103 as being obvious over Clark in view of JP '951 and the ASM Handbook article which describes an autoclaving furnace, wherein the examiner has interpreted the claimed heat insulating structure to read on the autoclaving furnace of the ASM Handbook article. Here again, Applicants stand by the arguments of the last response, which are herein incorporated by reference. Additionally, Claims 3 and 4 now clarify that the Al alloy casting is first provided with a heat insulating structure and is only then introduced in the HIP apparatus. Accordingly the claimed heat insulating structure cannot be the HIP apparatus itself, and so the disclosure of the autoclave furnace chamber in the ASM Handbook article cannot teach a heat insulating structure according to the claims.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowance.

Respectfully submitted,

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